

FITTING INTO THE LANDSCAPE

Development should fit into its natural surroundings, rather than being superimposed as a dominant element in the countryside.

Why Fit In?

We should expect to enjoy and appreciate our environment, even after development occurs. This is possible if we identify and maintain the essential open space system of each location. Conservation subdivisions with smaller average lot sizes will preserve the important natural characteristics of the site and forever provide residents proximity to a rural setting. The ability to require conservation subdivisions is allowed by New York State Town Law, Section 281.



A rural farm house sheltered in the treeline stands in contrast to the new house lots now dividing up the former fields.

Ideally, most new construction will be encouraged in and around centers or in traditional hamlet-scale groupings, but low density development will still continue in rural areas. Local planning boards can insure that developers blend new buildings into the landscape by requiring that they **identify the open space system PRIOR to submitting any plan for subdivision**. Some sites will be more complicated than others, but identifying the open space system is the necessary first step in “fitting it in.” Once site characteristics are fully understood, then suitable areas for development are delineated. Within these areas, house lots and roads are located. Only as a LAST STEP are the lot lines drawn in.

Rural Development Guidelines

- **Minimize the clearing of vegetation and preserve important natural features.**
- **Retain stone walls, hedgerows, and other rural landscape elements.**
- **Place buildings and access roads in treelines, on mildly sloping ground, or along the edges of fields; avoid construction in open fields or on ridgelines.**
- **Locate structures and septic systems 100 feet or more from streams or ponds to protect water quality.**
- **Re-use farm roads or country lanes whenever possible, rather than constructing new wide roads.**
- **Maintain or enhance scenic views. Protecting the character of the landscape also protects the property's most valuable assets.**

Open Space System Components

- Agricultural Lands
- Wetlands and Floodplains
- Steep Slopes
- Mature Tree Stands
- Views from the Road
- Aquifer Recharge Areas
- Significant Plant and Wildlife Habitats
- Cultural Features, such as stone walls, barns, and historic buildings

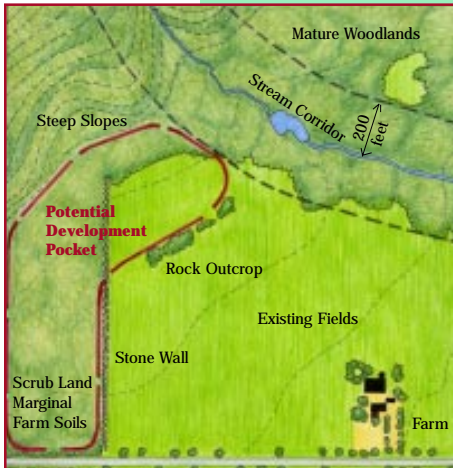
“The ultimate goal is the creation of an interconnected network of protected open space weaving through each community.”

Randall Arendt

How to Create Conservation Subdivisions

Step 1

Require a map of the open space system for the parcel and surrounding area.



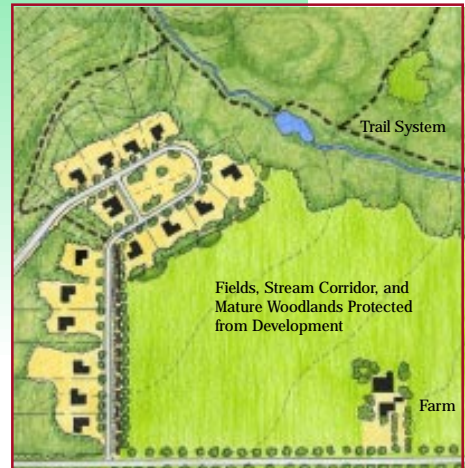
Step 2

Conventional 3-acre sketch layout determines maximum lot count under existing zoning.



Step 3

The same number of houses can fit in to the landscape while preserving 80 percent of the open space



Locate Development Pocket

A sketch analysis of the area provides all the basic information to calculate how a development can fit into the landscape - what land should be protected and potential development pockets.

Typical Superimposed Subdivision

- Productive farmland lost forever.
- Pleasant view from road eradicated.
- Stream corridor cut off by backyards.
- Large lots divide up and dominate the landscape.
- Individual road for each subdivision.
- Costly road and bridge construction.
- No chance for residents to enjoy special site features.

Conservation Subdivision

- Large farm field protected.
- Rural view from road retained.
- Trail system allows access to stream.
- Smaller, but substantial individual lot sizes with central green.
- Potential connection to adjacent parcel.
- Less expensive construction costs.
- Residents have views of open field and direct access to woods.

Maintaining Conservation Areas

There are three primary methods to secure the open space system:

1. dedicate for public park land;
2. maintain as open space through Homeowners' Association; and
3. develop easements for certain community rights on private property.

The second and third options will be used most frequently. Open space subdivisions are only possible when local planning boards believe enough in the conservation subdivision process in order to insist on making these techniques work.

Common Uses for Protected Open Space System

- Agriculture
- Community Gardens
- Forest Management
- Trails
- Visual or Sound Barriers
- Common Septic Fields
- Pastures or Paddocks
- Meadows
- Recreational Fields
- View Protection

Sources:

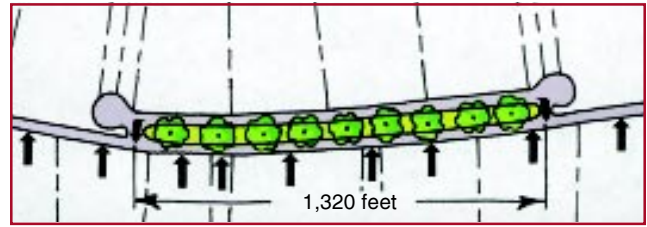
Randall G. Arendt, *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks*, 1996
Dutchess County Department of Planning and Development, *Rural Development Guidelines*, New York Planning Federation, 1994

PREVENTING STRIP SUBDIVISIONS

Build new housing in the countryside off side roads or shared drives, screened from the public view, rather than lining rural roads with house lots or commercial uses.

Just a few new houses along an existing public road, subdividing less than five percent of the surrounding land, can block the views of 100 percent of the open landscape. Unfortunately, the cheapest way to develop is to take advantage of the public road system to provide direct access to newly cut-off parcels. Small subdivisions, usually less than ten lots at a time, are lining the roads with individual lots, each with a separate driveway spaced 100 feet or so apart. As a result, vast amounts of fields, forests and open land in Dutchess County are being hidden behind back yards.

Similar to strip commercial development, strip residential subdivisions not only block views from the public roads, the rows of separate driveways create multiple conflict points for the flow of through traffic. This piecemeal pattern of development is all too quickly stealing our rural heritage, destroying the scenic character of the road system, and making the roads less safe. Towns should encourage alternative patterns for minor subdivisions that gradually create a connected interior street system, or at the very least promote shared drives with provisions for possible future connections.



Ten residential parcels in the Town of Washington share a frontage road, providing a landscaped buffer and a safer, quieter street for the home-owners, compared to multiple lots with potential driveways across the state highway.

Subdivisions should be designed to settle back into the countryside.



Conservation development off a side road system preserves open space and provides substantial green setbacks, rather than the same number of house lots facing the frontage.

Robinson Lane, just outside the hamlet of Fishkill Plains showing the horse farm to the east and two initial house lots on the left in 1988.



Strip Subdivision Case Study

Before

After



Robinson Lane after the edge of the farm was subdivided into "Rolling Meadows Subdivision", 15 one-acre lots facing the road.

One of the prettiest, tree-lined rural roads in southern Dutchess, Robinson Lane once looked something like this.



The mature maple trees were removed for multiple driveways.

The transformation of Robinson Lane from a distinctive scenic road to a routine residential strip is typical of numerous subdivisions along rural roads throughout the county. It is just too easy for landowners to lop off a few lots along the public right-of-way. Planning Boards should look for longer term solutions that protect the safety, capacity, and rural character of our road system.

In this case, a creative 15-lot alternative could be placed along a private drive or street built to reduced specifications that directly connects the new houses with the existing hamlet,

- allowing easy walking to the nearby stores and neighborhood schools;
- creating more scenic house sites facing farmland and natural ponds, not a busy road;
- reinforcing the hamlet center with a secondary street system;
- preserving the farm frontage as a greenbelt surrounding the hamlet;
- providing a protected street and front yards for kids; and
- retaining the rural, tree-lined country road.



SITE SENSITIVE UTILITIES

Conserve special site features and rural qualities through a creative combination of on-site and shared utility systems.

The norm for areas not served by central water and sewer systems is to insure that each lot be able to handle a home's water and wastewater requirements, including room for a second field in case of septic system failure. This practice encourages the standard subdivision approach of carving an entire site up into lots, rather than realizing the full natural or open space potential of the site as outlined in "Fitting into the Landscape (A1)." It also has worked to dictate a standard minimum lot size of one acre to handle the margins of safety required by the Department of Health.

However, there are many ways to reduce lot sizes so that we can permanently protect the natural assets of a site. These possibilities are well within the technical grasp of local engineers, are possible to achieve within existing health code requirements, and need not result in costly delays in approvals.

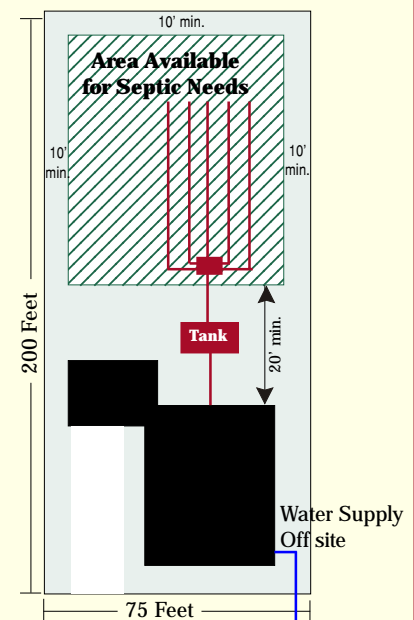
A Suburban Sized Lot in a Rural Setting

We can have the best of both worlds. First, we get a lot big enough for our house, garage, gardens and expansion. But we also get built-in assurance that our house will always be in a unique and protected setting. Depending on where we are, that setting might include a stand of trees, a wetland, a significant view point, a trail segment, a meadow, a buffer to the highway, or a common green area.

The figure to the right illustrates a suburban sized lot in a rural area. This lot would work equally well in a 1,2,3,5, or 10 acre zone. The difference, in each case, is that more land can be protected in areas zoned for very low densities.

This layout is for 15,000 square feet or about one-third acre. The lot includes an expansive area for a septic system, sufficient to meet Health Department requirements for a four bedroom home (including a 100% field replacement space).

By using a community water supply, developers often gain considerable flexibility in maintaining certain site features and the rural setting.



Living Technologies, Inc.

Maintenance of community water and septic not an obstacle

1. Town reviews development proposals according to adopted goals and procedures.
2. Town agrees to or requests County Water and Wastewater Authority to assume water and wastewater facility responsibility.
3. Authority reviews (when requested) and Health Department approves plans.
4. Town Board or County Legislature establishes districts or zones of assessment.
5. Town or Authority assumes ownership of facilities and carries out maintenance.

Water and Wastewater Alternatives for Conservation Subdivisions

Towns, developers and health officials have many proven methods to solve water and wastewater requirements. Some of these solutions are illustrated below. Soil type, land cover, zoning, slopes and other variables make each site a unique challenge.

A Continuum of Choices

- Reduce lot size to one acre (in zones greater than one acre minimum), balance placed in conservation use.
- Provide community wells, reduce average lot size to + 1/2 acre, depending on slope, soil type, etc.*
- Provide shared septic systems, allowing flexible lot sizes, some 1/4 acre or less, or multi-family mixed with single-family.
- Use a combination of shared water system and common septic systems.
- Use a common septic system with a secondary treatment unit.
- Use a “package plant” treatment systems which discharge to an intermittent or full flowing stream.

*Shared and community systems must be owned and operated by a municipality or County Water and Wastewater Authority.

... which can be applied in countless ways

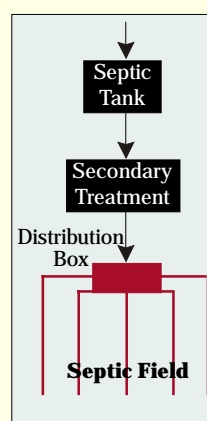


This proposed 54 acre subdivision in a two acre zone calls for only 20 acres to be used for housing. The development is served by a community well. Ten smaller homes, perhaps townhouses, are integrated into the site plan, as well as two estate lots. The small units discharge wastewater into a common septic field. Two houses share a septic system because of poor soils.

Innovative natural treatment systems use plants, fish and bacteria to digest wastewater in a greenhouse setting that resembles a botanical garden and school laboratory. This plant serves 1,600 residents in the City of South Burlington, Vermont.



Living Technologies, Inc.



Secondary Treatment to Enhance Septic System Performance

Secondary in-ground treatment systems, costing about \$8-\$10/gallon (\$3,000 per household) are available to provide aerated, biological treatment, further reducing BOD and suspended solids before the effluent enters the field.

The Dutchess County Health Department sends a flow confirmation letter to the New York State Department of Environmental Conservation before it issues a SPDES permit.

Source:

Living Technologies, Inc. *A Living Machine*, 1999.

New York State *Appendix 75-A Wastewater Treatment Standards - Individual Household Systems*, 1990.

New York State Department of Health. *Individual Residential Wastewater Treatment Systems: Design Handbook*, 1996.

Dutchess County Department of Health. *Water and Wastewater Systems: Design and Construction Standards*, 1998.

SAVING FARMLAND WITH DEVELOPMENT

Create farm conservation and development plans that allow future home sites to co-exist with active farmland, conserve the best agricultural soils, and discourage roadside sprawl.

Many farmers rely on the occasional sale of home sites to supplement farm income. The result can be piecemeal or strip residential development that undermines a town's rural qualities. Farm conservation plans offer landowners an alternative strategy that protects equity, farmland, and views. Landowners subdivide home sites as needed over time according to a pre-approved plan based on conservation design principles.

The primary goal is the conservation of productive farmland for the long-range continuation of farm operations. Maintenance of open farmland is not an issue when conserved acreage continues to be part of the working landscape.



When farm conservation and development plans work, agricultural operations and views will still look like this.

Because every farm is different, each farm conservation plan will be unique. The location of acreage that is most appropriate for residential development will depend on the natural features of the landscape and on the density that the farm owner considers most compatible with the long-term operation of the farm. Plans may also identify potential acreage for a farm-related business or cottage industry.

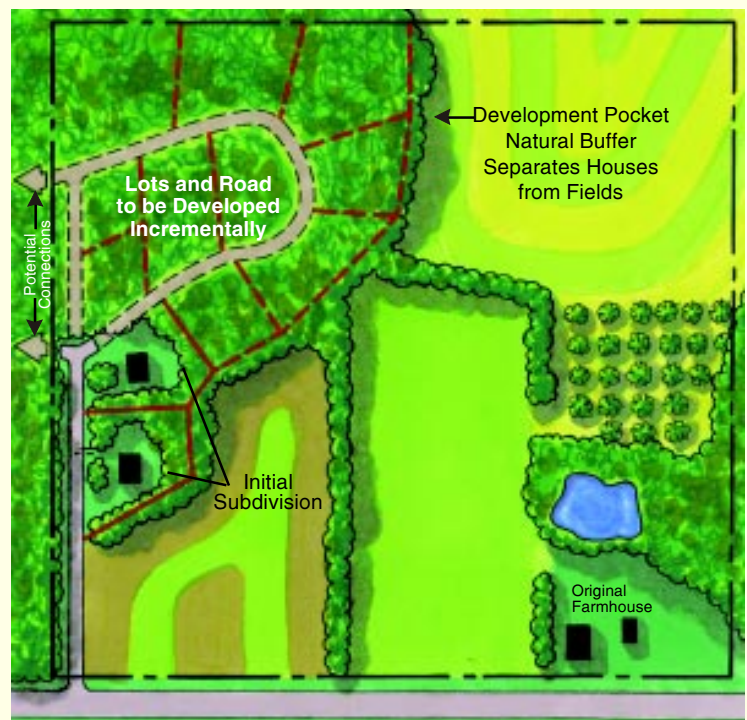
A simple example:

On a 100-acre farm in a five-acre zoning district, the total potential density, excluding farmstead, roads, steep slopes, wetlands and water, may be 15 five-acre lots.

Locate development pocket on 25 acres of marginal land, hiding the houses and roads within woodlands and along the far edges of open fields.

Approve incremental subdivision plan for up to 12 lots within the 25-acre development pocket, reducing minimum lot size.

Negotiate a **density easement** allowing 3 additional lots on the remaining 75 acres. Full density (15 lots) may be reached over time at the discretion of the farm owner. Even at full density, more than 50 percent of the farm is protected.



Conservation and Gradual Development on a Working Farm

Limited Development Option

Reduce density by subdividing large tracts of land on which development is restricted by conservation easements.

The Dutchess Land Conservancy created a limited development plan for a 340-acre farm in the Town of Amenia, allowing only one home site on each of three subdivided parcels, and protecting the remainder of the subdivided acreage with easements. The farm owners were able to capitalize on the residential value of homesites on scenic but marginal farmland, and continue to cultivate a significant portion of subdivided cropland through lease-back arrangements with their new neighbors.



- Shared access via existing farm road
- Leased farmland under easement
- Homes located off farmland

Flexible Farm Incentives

1. Use conservation design guidelines to locate residential development, reserving the best farmland. (See "Fitting into the Landscape," A-1.)
2. Determine density option that best meets farm owner's goals, securing easement appropriate for concentrated density.
3. Locate home sites within identified development pocket; waive road frontage requirements and road standards to allow access via shared driveways or reduced-width local roads.
4. Review and approve conservation plan, waiving time limits and fees for incremental subdivision.
5. Incorporate approved plan as an addition to a municipal **Farm Conservation Map**.
6. Assure fast-track approval for future subdivisions based on pre-approved plan, maintaining agricultural assessment until subdivision occurs.



Help is available from planning staff and land conservancies for farm owners who wish to prepare farm conservation plans and for municipalities that encourage farm planning.

Who Benefits?

Farm conservation planning offers **the farm owner...**

- capital for reinvestment or expansion
- a broader range of density options
- more flexibility in locating home sites
- control over the pace of subdivision
- incremental extension of shared access roads
- reduced costs when planned lots are actually subdivided

Farm conservation planning helps **the community...**

- prevent repeated, uncoordinated subdivision
- move home sites away from scenic roads
- keep farmland on its tax rolls
- protect important farm soils
- support the agricultural economy
- retain the defining character of our countryside

Source:

Regional Plan Association, *Tools and Strategies: Protecting the Landscape and Shaping Growth*, 1990